Abstract

**DECAFFINATION OF COFFEE BEANS. Gabe Brennaman.** The main purpose of this research was to find a way to decaffeinate coffee beans using a carbon filter and distillation. The methods used included cooking the beans, filtering them using carbon or charcoal, and then diffusing the caffeine out of new beans and then cooking them. Charcoal was used because it is known to purify things out of water or liquids such as caffeine while letting the other things in coffee that form the flavor run through. The caffeine in the new beans then diffuses into the old coffee because it had no caffeine while the things that made up the flavor stayed in the coffee beans. This form of coffee bean decaffeination is known as the *Swiss water decaffeination*. It is one of the simplest and safest ways to create decaffeinated coffee. Another upside to the *Swiss water decaffeination* is that very few chemicals are used. Other ways use chloroform and nitrous oxide which are two chemicals we were able to avoid using. The lab shows that the decaffeination of coffee can be done quickly and easily and without using dangerous chemicals. It shows that as long as you have charcoal and filter paper you can even do it from home. Unfortunately the lab was not finished or proven because the caffeine in the coffee beans were not tested. Next time it would be helpful to use more water to do the experiment in. Decaffeination of coffee without losing flavor is important to consumers because they want the taste but not the unhealthy side effects of caffeine.

**Key Words: Swiss Water Decaffeination, Carbon filter, Charcoal, Diffusion**